

I Claim:

1. An inking and cleaning system for use on a printing press, the system comprising:

a fluid circuit having a first operating configuration wherein the fluid circuit is adapted to supply an ink to the printing press and a second operating configuration wherein the fluid circuit is adapted to supply a solution to the printing press, the fluid circuit having a pump to circulate fluid through the fluid circuit and one or more valves arranged to switch the fluid circuit between the first operating configuration and the second operating configuration; and

a controller operatively coupled to the fluid circuit and adapted to cause the fluid circuit to switch between the first operating configuration and the second operating configuration.

2. The system of claim 1, wherein the first operating configuration is adapted to supply the ink from an ink source and return any unused ink to the ink source, and wherein the second operating configuration is adapted to supply the solution from a solution source and return the solution to a fluid retainer after use.

3. The system of claim 1, wherein the valves are arranged in a first valve configuration placing the fluid circuit in flow communication with an ink source and wherein the valves are arranged in a second valve configuration placing the fluid circuit in flow communication with a solution source and a solution retainer.

4. The system of claim 1, including a clean solution source and a used solution source, the clean solution source and the used solution source adapted to supply at least one of the clean solution and used solution to the printing press, and wherein the fluid circuit is adapted to supply the solution from at least one of the clean solution source and the used solution source, and return the solution from at least one of the clean and used solution sources to the used solution source.

5. The system of claim 4, wherein at least one of the clean solution source and the used solution source further comprises a level transmitter adapted to determine a volume of solution in the solution source.

6. The system of claim 1, further comprising a solution fluid circuit, a solution pump, a solution source, a solution discharge, and at least one solution valve, the solution valve being arranged to place the solution fluid circuit in flow communication with the clean solution source and the used solution source.

7. The system of claim 1, wherein the fluid circuit further comprises a surge suppressing filter.

8. The system of claim 1, wherein the fluid circuit further comprises at least one flow sensor.

9. The system of claim 1, wherein the fluid circuit is adapted to supply a used solution to the printing press for flushing, and wherein the fluid circuit is further adapted to supply a clean solution to the printing press for rinsing.

10. The system of claim 1, wherein the fluid circuit further comprises an ink station and a flush station, the ink station being adapted for flow communication with an ink source, and wherein the flush station being adapted for flow communication with a solution source.

11. The system of claim 10, wherein the ink station and the flush station are adapted to be placed within a hazardous Class 1, Division 1 environment.

12. The system of claim 1, wherein the system further comprises a display operatively coupled to the controller, the display being adapted to display information to a user.

13. The system of claim 1, wherein the system further comprises a light tower coupled to the controller, the light tower being adapted to display information to a user.

14. The system of claim 1, wherein the fluid circuit is adapted to supply the ink from an ink source to the printing press for use and return any unused ink to the ink source, and wherein the fluid circuit is adapted to supply the solution from a solution source to the printing press for flushing the printing press and return the solution to the solution source after use.

15. An inking and flushing system for use on a chamber doctor blade system, the system comprising:

a fluid circuit having a first operating configuration wherein the fluid circuit is adapted to supply an ink to the printing press and a second operating configuration wherein the fluid circuit is adapted to supply a solution to the printing press, the fluid circuit having a pump to circulate fluid through the fluid circuit and one or more valves to switch the fluid circuit between the first operating configuration and the second operating configuration;

an ink station adapted to provide ink to the fluid circuit;

a flush station adapted provide the solution to the fluid circuit; and

a controller operatively coupled to the fluid circuit and adapted to cause the fluid circuit to switch between the first operating configuration and the second operating configuration.

16. The system of claim 15, wherein the ink station is adapted to supply the ink from the ink station to the fluid circuit for use in the chamber doctor blade system and wherein the ink station is further adapted to return any unused ink to the ink station.

17. The system of claim 15, wherein the flush station further comprises a clean solution source and a used solution source, and wherein the flush station is adapted to supply the solution from at least one of the clean solution source and the used solution source to the fluid circuit for use in flushing the chamber doctor blade system, and wherein the flush station is further adapted to return the solution to the used solution source.

18. The system of claim 15, wherein the pump is a double diaphragm air driven pump.

19. The system of claim 15, wherein the flush station further comprises a solution fluid circuit, a solution pump, a solution source, and a solution discharge, the solution fluid circuit being adapted to supply solution to the flush station and being adapted to remove solution from the flush station.

20. An inking and flushing system for use on a printing press, the system comprising:

a fluid circuit having a plurality of fluid lines, a pump to circulate fluid through the fluid lines, and at least one valve, the at least one valve having a first valve arrangement wherein the fluid lines are adapted to be in flow communication with the printing press and an ink supply, and the at least one valve having a second valve arrangement wherein the fluid line are adapted to be in flow communication with the printing press and a solution supply; and

a controller operatively coupled to the pump and the at least one valve, the controller being adapted to cause the at least one valve to be placed in at least one of the first valve arrangements and the second valve arrangements.

21. The system of claim 20, wherein the pump is adapted to circulate ink from the ink supply to the printing press and to return unused ink from the printing press to the ink supply when the at least one valve is in the first valve arrangement, and wherein the pump is adapted to circulate solution from the solution supply to the printing press and to return the solution from the printing press to the solution supply when the at least one valve is in the second valve arrangement.

22. The system of claim 20, the pump is adapted to circulate ink from the ink supply to the printing press and to return unused ink from the printing press to the ink supply when the at least one valve is in the first valve arrangement, and wherein the pump is further adapted to circulate solution from the solution supply to the printing press and to return the solution from the printing press to a solution retainer when the at least one valve is in the second valve arrangement.

23. The system of claim 20, wherein the at least one valve having a third valve arrangement wherein the fluid lines are adapted to be in recirculating flow communication with the printing press and the pump.

24. A method of inking and flushing a printing press, the method comprising the steps of:

supplying an ink to an operating printing press through a fluid circuit, the fluid circuit comprising a plurality of fluid lines, a circulating pump, and a plurality of valves;

removing ink from the fluid circuit;

supplying a first solution to the operating printing press through the fluid circuit;

flushing the operating printing press and the fluid circuit with the first solution;

removing the first solution from the fluid circuit to a used solution storage area;

supplying a second solution to the operating printing press through the fluid circuit;

flushing the operating printing press and the fluid circuit with the second solution;

and

removing the second solution from the fluid circuit to the used solution storage area.

25. The method of claim 24, further comprising the step of priming the fluid circuit with at least one of the ink, the first solution, and the second solution.

26. The method of claim 24, further comprising the step of circulating the first solution within the fluid circuit for a period of time.

27. The method of claim 24, further comprising the step of circulating the second solution within the fluid circuit for a period of time.

28. The method of claim 24, further comprising the step of accepting operating parameters from an operator.

29. The method of claim 24, further including the step of removing used solution from the used solution storage area.

30. The method of claim 29, further including the step of monitoring the volume of used solution in the used solution storage area.